

ABSTRACT OF THE DISCLOSURE

[0150] An implantable microstimulator configured to be implanted beneath a patient's skin for tissue stimulation employs a bi-directional RF telemetry link for allowing data-containing signals to be sent to and from the implantable microstimulator from at least two external devices. Further, a separate electromagnetic inductive telemetry link allows data containing signals to be sent to the implantable microstimulator from at least one of the two external devices. The RF bidirectional telemetry link allows the microstimulator to inform the patient or clinician regarding the status of the microstimulator device, including the charge level of a power source, and stimulation parameter states. The microstimulator has a cylindrical hermetically sealed case having a length no greater than about 27mm and a diameter no greater than about 3.3mm. A reference electrode is located on one end of the case and an active electrode is located on the other end of the case.